

Assignment 3

Deadline: In the week of April 1, 2024

Problem

You are tasked with creating a sorting game that integrates sorting algorithms and object-oriented programming concepts.

1. Requirements

- ◆ **Game Concept:** Develop a game concept that involves sorting elements in some way. This could be sorting numbers, letters, or other objects within a specific context or scenario.
- ◆ **Implementation using Classes:** Utilize object-oriented programming principles to design and implement classes for program components. Each class should have appropriate attributes and methods.
- ◆ **Sorting Algorithms:** Implement sorting algorithm within the game.
- ◆ **User Interface:** Create a user-friendly interface for the game, including clear instructions, prompts, and visual elements. The interface should guide players through the gameplay and provide feedback on their progress.
- ◆ **Error Handling:** Implement error handling to handle invalid inputs, unexpected behaviors, and edge cases gracefully. The game should provide informative messages to guide players in case of errors.
- ◆ **Documentation and Presentation:** Prepare documentation that explains the game concept, how it works, and the implementation details. Each group will present their project to the class, demonstrating its functionality, discussing design choices, and explaining the sorting algorithms used.

2. Instructions

- ◆ Utilize classes to represent the game, sorting algorithms, and any other necessary entities.
- ◆ Ensure that the game provides clear instructions and feedback.

3. Save the File Offline

- ◆ Click the “Download Code” button/icon to save the file offline.
- ◆ Rename the downloaded main.py file as a3.py

4. Report

- ◆ Make a presentation on how you implemented the solution explaining the game concept, implementation details, and any challenges faced during development.
- ◆ Include screenshots of your code and output in the report.
- ◆ Add your names and student numbers in the report.

5. Submission

- ◆ Include your student number as comment at the top of your code i.e #012345.
- ◆ Make sure to include your partner's name and student number as well.
- ◆ Submit your code as a3.py and powerpoint as a3.pptx zipped into an a3.zip file.
- ◆ Each group makes one submission. That means only one person in a group makes a submission. Failure to do so will result in a penalty.
- ◆ Absolutely no late submissions.
- ◆ Failure to submit on Moodle will result in 0.

6. Grading

- ◆ (1 point) Correctly submitting both files and including your name and correct student number.
- ◆ (5 point) Following guidelines
- ◆ (5 point) Presentation